## CHOITHRAM SCHOOL, MANIK BAGH, INDORE ANNUAL CURRICULUM PLAN SESSION 2020-21

CLASS: VII SUBJECT: MATHS

Month	Theme/ Sub-	Learning Object	tives	Activities	Expected Learning Outcomes	Assessment
& Workin g Days	theme	Subject Specific (Content Based)	Behavioral (Application based)	&Resources		
June 14 days	Integers	<ul> <li>Students will able to/ recall/ learn/apply/ find</li> <li>Concept and examples of Integers. (K)</li> <li>Representation of integers on number line.</li> <li>Reading of integers on number line.</li> <li>To find additive inverse of an integer.</li> <li>Learn to solve magic squares involving integers.</li> <li>DMAS rule for integers(U)</li> <li>Addition, subtraction as well as properties of integers (AP)</li> <li>Multiplication, Division and properties of integers in daily life situations.</li> </ul>	Students will develop understanding about use of integers such as in banks (credit and debit),Measuring temperatures, marking scheme (when there is minus marking) etc.	<ol> <li>Create patterns of integers.</li> <li>Framing Real life situations of Integers.</li> </ol>	<ul> <li>Students would be able to</li> <li>Understand concepts and examples of Integers.</li> <li>Representation of integers on number line.</li> <li>Reading of integers on number line.</li> <li>To find additive inverse of an integer.</li> <li>Learn to solve magic squares involving integers.</li> <li>DMAS rule for integers</li> <li>Addition, subtraction as well as properties of integers</li> <li>Multiplication, Division and properties of integers</li> <li>Application of integers in daily life situations.</li> <li>To develop Application skill, Higher order thinking and Numeracy skill, Ability of reasoning and team spirit</li> <li>They would be able to relate the content with practical life like every number has its negative number e.g. every coin has two faces</li> <li>+ve and -ve integers are used in measuring temperature.</li> </ul>	Assessment will be done on the basis of decided Rubrics.

			<ul> <li>seconds.</li> <li>Seemingly insignificant things can make a huge difference, so we must never underestimate small things.</li> <li>Proper and accurate concentration of chemicals is very important in drugs and medicines. Even a difference by 0.001 or smaller can cause severe health issues.</li> </ul>		<ul> <li>Develop analytical skills.</li> <li>Develop problem solving skills.</li> </ul>	
July 11 days	<b>Rational</b> <b>Numbers</b>	<ul> <li>Students will be able to understand / learn /define /apply/ find</li> <li>Concept and examples of Rational numbers. (K)</li> <li>Positive and negative Rational numbers. (K)</li> <li>Equivalent Rational numbers. (U)</li> <li>Representation of rational numbers in standard form. (U)</li> <li>Additive inverse and multiplicative inverse of a rational number. (K)</li> <li>Representation of Rational numbers on the number line. (U)</li> <li>Comparison of Rational numbers. (AY)</li> <li>Rational numbers. (U)</li> <li>Addition, Subtraction, Multiplication</li> </ul>	<ul> <li>Students will be able to</li> <li>Develop comparative skills by arranging rational number in ascending or descending order.</li> <li>Develop problem solving ability in real life situations.</li> </ul>	<ul> <li>1.Arranging rational numbers written on coloured strips in ascending or descending order.</li> <li>2.Representation of rational number on the number line.</li> </ul>	<ul> <li>Students would be able to learn /define /apply/ find</li> <li>Concept and examples of Rational numbers.</li> <li>Positive and negative Rational numbers.</li> <li>Equivalent Rational numbers.</li> <li>Representation of rational numbers in standard form.</li> <li>Additive inverse and multiplicative inverse of a rational number.</li> <li>Representation of Rational numbers on the number line.</li> <li>Comparison of Rational numbers.</li> </ul>	Assessment will be done on the basis of decided Rubrics.

Aug 7 days	Symmetry	<ul> <li>and Division of Rational numbers.(U)</li> <li>Student will be able to: <ul> <li>Recall line symmetry and reflection symmetry(U)</li> <li>Identify the axis of symmetry. (K) Lines of symmetry for regular polygons</li> <li>Identify and apply the concept of rotational symmetry of 2 -D figures. U)</li> <li>Find the centre, order and angle of rotation for a simple figure. (AN)</li> <li>Identify the figures having both reflection and rotational symmetry.</li> </ul> </li> </ul>	<ul> <li>Students would learn to visualize the things</li> <li>Students would learn to find symmetrical figure.</li> </ul>	1. To identify symmetrical designs from the surroundings. 2. To find axis of symmetry and order of rotational symmetry.	<ul> <li>Students would be able to: <ul> <li>Identify the axis of symmetry.</li> </ul> </li> <li>Draw Lines of symmetry for regular polygons</li> <li>Identify and apply the concept of rotational symmetry of 2 -D figures.</li> <li>Find the centre, order and angle of rotation for a simple figure.</li> <li>Identify the figures having both reflection and rotational symmetry</li> </ul>	Assessment will be done on the basis of decided Rubrics.
Aug 13 days	Data Handling	<ul> <li>The students will be able to understand:</li> <li>organization of data (U)</li> <li>preparation of frequency distribution table (Ap)</li> <li>Measures of central tendencies: Mean, Mode, Median and Range</li> </ul>	Following behavioral objectives will be achieved- • It's important to keep things and information organized to work	<ol> <li>Collection of situations where mean, mode and median can be used.</li> <li>To Prepare</li> </ol>	<ul> <li>Students would be able to</li> <li>Organize data</li> <li>prepare frequency distribution table</li> <li>Measure of central tendencies: Mean, Mode, Median and Range</li> </ul>	Assessment will be done on the basis of decided Rubrics.

		<ul> <li>(Ev)</li> <li>Construction and interpretation of different types of bar graphs (Sy)</li> <li>Chance and Probability. (AN)</li> </ul>	<ul> <li>properly.</li> <li>In our life, there will be both, ups and downs, we should be always grateful while the ups and should have enough courage to make it through the downs.</li> <li>Every unit is important in a group.</li> <li>Learning can be fun if you take it in a positive way.</li> <li>While comparing any two things or situations, or people, the parameters and scales must be same</li> <li>Students will also be able to develop observation and calculation skill.</li> </ul>	double bar graphs.	<ul> <li>Construct and interpret different types of bar graphs</li> <li>Construction and interpretation of different types of bar graphs</li> <li>Learn Chance and Probability</li> <li>Solve problems and situation-based questions.</li> <li>Learn that studying can be enjoyable.</li> <li>Realize importance of keeping things and information organized to work properly.</li> <li>develop observation and calculation skill.</li> </ul>	
Sep14 days	Algebraic Expressions	<ul> <li>The students will be able to understand:</li> <li>About like terms and unlike terms. (U, AN)</li> <li>About, terms factors and coefficient. (U)</li> <li>About Monomial, Binomial, Trinomial and Polynomial. (U)</li> <li>Addition and subtraction of Algebraic Expression (A)</li> <li>Applications of Algebraic Expressions. (A)</li> </ul>	<ul> <li>Following behavioural objectives will be achieved</li> <li>Not all people are alike; however, each and every one of us is a human and holds his own importance.</li> <li>Every unit is important in a group.</li> <li>Learning can be fun if you take it in a positive</li> </ul>	<ol> <li>Addition and Subtraction of algebraic expression.</li> <li>To frame algebraic expressions</li> </ol>	<ul> <li>The students would be able to understand:</li> <li>About like terms and unlike terms.</li> <li>About Terms Factors and coefficient.</li> <li>About Monomial, Binomial, Trinomial and Polynomial.</li> <li>Addition and subtraction of Algebraic Expression</li> <li>Applications of Algebraic Expressions.</li> <li>Not all people are alike; however each and every one of us is a human and holds his own importance.</li> </ul>	Assessment will be done on the basis of decided Rubrics.

			<ul> <li>way.</li> <li>While comparing any two things or situations, or people, the parameters and scales must be same.</li> <li>A single wrong step can deviate us from the path.</li> <li>There is more than just one way to solve any problem.</li> <li>The smallest seeming mistake can completely change the situation and we won't get outcomes as we wanted.</li> <li>Situations can be handled in many ways</li> </ul>		<ul> <li>Every unit is important in a group.</li> <li>Learning can be fun if you take it in a positive way.</li> <li>While comparing any two things or situations, or people, the parameters and scales must be same.</li> <li>A single wrong step can deviate you from the path.</li> <li>There is more than just one way to solve any problem.</li> <li>The smallest seeming mistake can completely change the situation and we won't get outcomes as we wanted.</li> </ul>	
Oct10 days	Simple Equations	<ul> <li>The students will be able to:</li> <li>Understand about Linear Equations. (U)</li> <li>Frame Linear Equation (K)</li> <li>Solve an Equation with different methods. (K)</li> <li>Solve story sum based on applications of simple equation. (A)</li> </ul>	<ul> <li>SA II</li> <li>Following behavioural objectives will be achieved.</li> <li>It's necessary to know all variables to solve an unsolved mystery.</li> <li>We need to keep trying to succeed.</li> <li>Errors and mistakes make us learn more and</li> </ul>	<ol> <li>To frame algebraic expressions by using variable and constant.</li> <li>To frame linear equation.</li> </ol>	<ul> <li>Students would be able to:</li> <li>Frame Linear Equations.</li> <li>Apply transposition method to solve equations.</li> <li>Solve word problems based on applications of simple equation</li> <li>Solve situation-based questions.</li> <li>Understand that knowing every argument correctly matters to reach a conclusion.</li> </ul>	Assessment will be done on the basis of decided Rubrics.

			teach us new ways to look at the problem.		<ul> <li>Realize that we need to keep trying to succeed.</li> <li>Learn that errors and mistakes make us learn more and teach us new ways to look at the problem.</li> </ul>	
NOV 8 days	Visualizing SolidShapes	<ul> <li>Student will be able to:</li> <li>Identify and draw 2- dimensional and 3 dimensional figures.(U)</li> <li>State the number of vertices, edges and faces of 3 dimensional figures(K)</li> <li>Draw nets for cubes, cuboids, cylinders, pyramid, prism and cones.( AP)</li> <li>Identify the solid formed by a given net. (U)</li> <li>Draw oblique and isometric sketches. (K)</li> <li>Verify Euler's formula. (A)</li> <li>Draw different views. (U)</li> <li>Visualize different cross sections (horizontal and vertical) of solid objects(AP)</li> </ul>	<ul> <li>Following behavioral objectives will be achieved1;</li> <li>Students will be able to visualize all the faces of the images of 3D shapes.</li> <li>Students will be able to develop drawing skills by using isometric dotted paper for representing various 3 D shapes.</li> <li>Team spirit will be developed while working in group to prepare nets of 3D shapes.</li> </ul>	<ol> <li>To draw front, side and top view of Rubik's cubes.</li> <li>To solve questions based on Net of Dice.</li> </ol>	<ul> <li>Students would be able to:</li> <li>Identify and count vertices, edges and faces of 3D figures.</li> <li>Recognize 2D and 3D figures from the surroundings</li> <li>Understand the nets for various solid shapes</li> <li>Identify the solid obtained by a given net.</li> <li>Verify Euler's formula.</li> <li>Draw solids on a flat surface.</li> <li>Draw different views.</li> <li>Visualize cross sections (horizontal and vertical) of solid objects.</li> <li>Get knowledge and will develop observation skill by identifying number of faces, edges and vertices of the solid.</li> <li>Learn application part by using Euler's formula for verification and</li> </ul>	Assessment will be done on the basis of decided Rubrics.
NOV 12days	Exponents and Powers	<ul> <li>The students will be able to :</li> <li>Write number in its expanded form and will be able to compare any two numbers. U</li> <li>Express a given number in its</li> </ul>	<ul> <li>Following behavior objectives will be achieved:</li> <li>The students will be able to understand that</li> </ul>	1. To prove laws of exponent by paper folding and pasting. Ex $3^n$ and $2^n$	<ul> <li>The students would be able to:</li> <li>Write number in its expanded form and will be able to compare any two numbers.</li> <li>Express a given number in its prime</li> </ul>	Assessment will be done on the basis of decided Rubrics.

		<ul> <li>prime factorization in their powers. K</li> <li>Define exponents for natural numbers. A</li> <li>Know various laws of exponents. A</li> <li>Apply the laws of exponents to solve the problems with different operations. A</li> <li>Know standard form / scientific notation for numbers. K</li> </ul>	<ul> <li>some common characteristics/qualities are required to be a part of a group.</li> <li>The students will be to follow the principles/ethics to make their lives easier (as they study the different laws of exponents to make the calculations easier).</li> <li>The students will be able to elaborate / brief their views as per requirement.</li> <li>The students will be able to connect exponents in real life situations as we use units like square feet, square meters, cubic meters, etc.</li> </ul>		<ul> <li>factorization in their powers.</li> <li>Define exponents for natural numbers.</li> <li>Know various laws of exponents.</li> <li>Apply the laws of exponents to solve the problems with different operations.</li> <li>Know standard form / scientific notation for numbers.</li> <li>Follow the principles/ethics to make their lives easier (as they study the different laws of exponents to make the calculations easier).</li> <li>Elaborate / brief their views as per requirement.</li> <li>Connect exponents in real life situations as we use units like square feet, square meters, cubic meters, etc.</li> </ul>	
DEC 14days	<b>Comparing</b> <b>Quantities</b>	<ul> <li>The students will be able to</li> <li>Recall the concept of ratio as an extension of fraction. (K)</li> <li>Find the equivalent ratios as an extension of equivalent fraction. (U)</li> <li>Recall the concept of proportion as an equality of two ratios. (K)</li> <li>To recall unitary method and apply it in word problems. (A)</li> <li>Understand the term percentage as a fraction with denominator 100.(K)</li> </ul>	<ul> <li>The students will be able to</li> <li>Develop comparative skills by finding percentage.</li> <li>Develop understanding related to profit and loss while dealing with prices of different commodities.</li> <li>Develop Problem solving skills by</li> </ul>	<ul><li>1.Find Increase or decrease %</li><li>2.Calculate the Interest as well as Amount (of SBI) for given Principal</li></ul>	<ul> <li>The students would be able to:</li> <li>Recall the concept of ratio as an extension of fraction.</li> <li>Find the equivalent ratios as an extension of equivalent fraction.</li> <li>Recall the concept of proportion as an equality of two ratios.</li> <li>To recall unitary method and apply it in word problems.</li> <li>Understand the term percentage as a fraction with denominator 100.</li> </ul>	Assessment will be done on the basis of decided Rubrics.

<ul> <li>Convert fractions and decimals into percentage and vice-versa. (U)</li> <li>Find the increase and decrease of a quantity in terms of percentage. (A)</li> <li>Apply percentage in problems involving profit and loss. (A)</li> <li>Find simple interest and amount. (U)</li> <li>To find rate, principal and time using formula. (U)</li> <li>To find CP, SP, Profit% and Loss% (A)</li> </ul>	<ul> <li>applying various formulae.</li> <li>Develop ability of reasoning by finding rate of interest on different schemes available.</li> </ul>	<ul> <li>Convert fractions and decimals into percentage and vice-versa. Compare quantities</li> <li>Find the increase and decrease of a quantity in terms of percentage.</li> <li>Apply percentage in problems involving profit and loss and interest</li> <li>Find simple interest and amount.</li> <li>To find rate, principal and time using formula</li> <li>To find CP, SP, Profit% and Loss%</li> <li>Develop calculative skills by using unitary method.</li> <li>Develop comparative skills by finding percentage.</li> <li>Develop understanding related to profit and loss while dealing with prices of different commodities.</li> <li>Problem solving skills will be developed by applying various formulae.</li> <li>Develop ability of reasoning by finding rate of interest on different schemes available.</li> </ul>
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DEC 6 days Jan 8 days	Lines and Angles	<ul> <li>Students will be able to:</li> <li>Define Parallel lines, intersecting lines, Interior angles, Exterior angles, Transversal lines, Corresponding angles, Alternate angles, adjacent angles, vertically opposite angles and linear pair. (K)</li> <li>Understand linear pair, complementary angles and supplementary angles. (U)</li> <li>Understand when a transversal intersects a pair of parallel lines(U) The alternate angles are equal. The corresponding angles are equal. Co-interior angles are supplementary.</li> <li>Check whether lines are parallel or not.</li> </ul>	<ul> <li>Students will be able to:</li> <li>Recognize parallel and intersecting lines from their surroundings.</li> <li>Develop drawing skills by using isometric dotted paper for representing various 3 D shapes.</li> </ul>	<ol> <li>Drawing pairs of angles and checkingwhethe r given pair of angles are supplementary or complementary.</li> <li>Verification of co interior angles are supplementary by cutting and pasting method.</li> </ol>	<ul> <li>Students would be able to:</li> <li>Understand linear pair, complementary angles and supplementary angles. (U)</li> <li>Define Parallel lines, intersecting lines, Interior angles, Exterior angles, and Transversal, Corresponding angles, Alternate angles and Linear pair. (K)</li> <li>Understand Vertically opposite angles (K)</li> <li>Understand when a transversal intersects a pair of parallel lines(U)</li> <li>The alternate angles are equal.</li> <li>The corresponding angles are equal.</li> <li>Co-interior angles are supplementary.</li> <li>Develop Imagination skill</li> <li>Visualize things with geometrical approach. Strengthen their designing skills</li> </ul>	Assessment will be done on the basis of decided Rubrics.
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Jan 12days	The Triangle and its Properties	<ul> <li>The students will be able to: <ul> <li>Understand Medians and Altitudes</li> <li>of a Triangle. (U)</li> <li>Understand Angle Sum Property of a triangle. (U)</li> <li>Understand Exterior angle of a triangle and its properties (U)</li> <li>Understand Pythagoras Property of Right-angled Triangle. (U)</li> <li>Solve application-based question.</li> </ul> </li> <li>(A) <ul> <li>Inequality properties of triangle.</li> <li>Specific Properties of types of triangle</li> </ul> </li> </ul>	Following behavioural objectives can be achieved- •All shapes are beautiful in their own way. •Learning can be fun if you take it in a positive way. •Some common characteristic is required to be a part of a group (properties of triangles).	<ol> <li>Verification of Exterior angle property.</li> <li>Verification of Pythagoras Property.</li> </ol>	<ul> <li>Student would be able to: <ul> <li>Understand Medians and Altitudes of a</li> </ul> </li> <li>Inagle. (U) <ul> <li>Understand Angle Sum Property of a</li> <li>iangle. (U)</li> <li>Understand Exterior angle of a triangle</li> <li>nd its properties (U)</li> <li>Understand Pythagoras Property of Right-</li> <li>ngled Triangle. (U)</li> <li>Solve application-based question. (A)</li> <li>Inequality properties of triangle.</li> <li>Specific Properties of types of triangle.</li> <li>All shapes are beautiful in their own way.</li> <li>Learning can be fun if you take it in a</li> <li>ositive way.</li> <li>Some common characteristic is required</li> </ul> </li> </ul>	Assessment will be done on the basis of decided Rubrics.
Jan 3 days Feb 8days	Practical Geometry	<ul> <li>The students will be able to:</li> <li>Construct parallel and perpendicular lines(U)</li> <li>Recall of the properties of parallel lines(K)</li> <li>Understand that in the following cases, triangle can be constructed:</li> <li>1.If 3 sides of the triangles are given where sum of every two sides must be greater than third side (SSS)</li> <li>2.If 2 sides and the angle contained between them are given (SAS)(U)</li> <li>3.If 2 angles and the side contained between them are given (ASA)(U)</li> <li>4.If the hypotenuse and a side of a right-angled triangle are given (RHS)(U)</li> </ul>	<ul> <li>Following behavioural objectives can be achieved: -</li> <li>Creativity will be increased</li> <li>Imagination power will be increased</li> <li>Students will learn to do work with accuracy</li> <li>Students will learn to do step by step work to achieve decided goal.</li> <li>To do presentable work</li> </ul>	Construction of triangles as per conditions. (i.e. SSS, SAS, ASA or AAS, RHS)	<ul> <li>The students would be able to:</li> <li>Construct parallel and perpendicular lines(U)</li> <li>Recall of the properties of parallel lines(K)</li> <li>Understand that in the following cases, triangle can be constructed:</li> <li>1.If 3 sides of the triangles are given where sum of every two sides must be greater than third side (SSS)</li> <li>2.If 2 sides and the angle contained between them are given (SAS)(U)</li> <li>3.If 2 angles and the side contained between them are given (ASA)(U)</li> <li>4.If the hypotenuse and a side of a right-angled triangle are given (RHS)(U)</li> </ul>	Assessment will be done on the basis of decided Rubrics.

Feb 12days	Congruence of Triangles	<ul> <li>Students will be able to learn:</li> <li>The meaning of congruence, congruent figures and CPCT. (K)</li> <li>Necessary conditions of two figures for being congruent for example</li> <li>Two line segments are congruent if they have same length (U)</li> <li>Two angles are congruent if they have same measure (AY)</li> <li>Two circles are congruent if they have same radius (AY)</li> <li>Two same sided regular polygons are congruent if they have same sided regular polygons are congruent if they have same length and breadth (AY)</li> <li>Two rectangles are congruent if they have same length and breadth (AY)</li> <li>Understand the concept of the congruence conditions of triangles which are SSS, ASA (AAS), SAS and RHS(A)</li> <li>Symbol of congruence and related terms as well as applications on congruence(A)</li> <li>Solve the problems based on congruence condition(A)</li> </ul>	<ul> <li>Students will be able to know importance of congruency in day to day life like <ul> <li>In field of architecture</li> <li>In factories for the production of parts like tires of vehicles.</li> <li>Pages of same book.</li> <li>Shapes of Holders of bulbs</li> <li>Shapes of Pin holders</li> <li>Coins or currency of notes of any particular denomination</li> <li>In tailoring.</li> </ul> </li> </ul>	<ol> <li>Identification of corresponding parts through superimposing of two cutouts of congruent triangles.</li> <li>Examine whether the two triangles are congruent or not.</li> </ol>	<ul> <li>Students would be able to understand:</li> <li>The meaning of congruence, congruent figures and CPCT.</li> <li>Necessary conditions of two figures for being congruent for example</li> <li>Two line segments are congruent if they have same length</li> <li>Two angles are congruent if they have same measure</li> <li>Two circles are congruent if they have same radius</li> <li>Two same sided regular polygons are congruent if they have same length and breadth</li> <li>Concept of the congruence conditions of triangles which are SSS, ASA (AAS), SAS and RHS</li> <li>Symbol of congruence and related terms as well as applications on congruence.</li> <li>Solve the problems based on congruence condition</li> <li>Importance of congruency in day to day life like in field of architecture , factories ,pages of same , book,Coins or currency of notes of any particular denomination, tailoring ,etc.</li> </ul>	Assessment will be done on the basis of decided Rubrics.
Feb3 days March 10 days	Perimeter and Area	<ul> <li>Students will be able to</li> <li>Understand formula for area of Parallelogram, Triangle, Rhombus and Circle.</li> <li>Generate formula for perimeter of Parallelogram, Triangle, Rhombus as</li> </ul>	<ul> <li>Following behavioural objectives will be achieved:</li> <li>Students will apply concept of perimeter while preparing track to conduct sports; in</li> </ul>	1. To find Perimeter and Area of the things from surrounding	<ul> <li>Students would be able to:</li> <li>Generate formula for area of Parallelogram, Triangle, Rhombus and Circle.</li> <li>Find formula for perimeter of Parallelogram, Triangle, Rhombus as</li> </ul>	Assessment will be done on the basis of decided Rubrics.

<ul> <li>well as circumference of circle</li> <li>Apply the formulae to solve the problems.</li> <li>Recall conversion of units.</li> <li>Learn concept of <i>π</i>.</li> </ul>	<ul> <li>drawing boarder around rectangular soft board; while counting distance covered by an athlete, while fencing their park to keep cattle away</li> <li>Students will apply concept of area in deciding how much carpet size is needed for a dining room; in determining how much paint is needed</li> <li>Students will be able to develop the skills like Observatory, Analytical, Application, and Estimation</li> </ul>	<ul> <li>well as circumference of circle</li> <li>Apply the formulae to solve the problems.</li> <li>Recall conversion of unit.</li> <li>Learn concept of π.</li> <li>Also, they would be able to</li> <li>Apply concept of perimeter while preparing track to conduct sports; in drawing boarder around rectangular soft board; while counting distance covered by an athlete, while fencing their park to keep cattle away.</li> <li>Apply concept of area in deciding how much carpet size is needed for a dining room; in determining how much paint is needed</li> <li>Develop the skills like Observatory, Analytical, Application, and Estimation</li> </ul>
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